

Chapter 10

Leveraging AI and Virtual Reality Tools for Digital Leadership in Higher Education

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DOI: 10.4018/979-8-3373-0035-1.ch010

ABSTRACT

Artificial intelligence (AI) and virtual reality (VR) are transforming digital leadership in higher education, where teaching learning, administrative efficiency, and sustainability are built to last. AI-based analytics guide better decision-making, and VR creates immersive and interactive learning spaces. These technologies facilitate personalized education, distance collaboration, and resource-efficient operations that promote institutional sustainability. This chapter provides insights into how AI and VR are impacting what it means for institutions of higher learning to be future-ready, not only through the lens of technology as a disruptive force, but also as regards ethical considerations, challenges, and best practices for sustainable digital leadership in higher education.

INTRODUCTION

Technology has evolved at an unprecedented pace, and the higher education sector is not immune to the disruption caused by these technological changes. The rise of digital leadership in higher education is an essential ingredient to enforce sustainability, innovativeness and adaptability in the age of artificial intelligence (AI) and virtual reality (VR). Such academic ecosystems glow with ongoing pressure to digitize, how the AI and VR courses are delivered as well as how the faculty uses have emerged as central players. These technologies not only facilitate better educational delivery but also maintain the best resource consumption and environmental impact when promoting the incorporation of digital access. This chapter reflects the velocity by investigating the recent trends of AI and VR, how they enable digital leadership in higher education institutions for sustainable development (Gobinath et al., 2024a).

Leaders have benefited from AI-powered analytics that have provided data-driven insights that run optimization of educational planning, student retention and operational efficiency. Everyone from students to faculty is also benefiting from intelligent tutoring systems, predictive analysis and AI-powered chatbots that are efficient and adaptive. AI has also allowed boring administrative tasks such as registration management, and grade and student support services, reducing human workload and increasing efficiency and accuracy. Higher education institutions are leveraging more sustainable practices, such as eliminating manual processes, reducing their dependence on paper, and implementing whatever intelligent energy management system capabilities they have (Quaquebeke & Gerpott, 2023).

Virtual reality replaced the higher education landscape by bringing in the experiences of immersion education promoting the engagement and maintenance of students. These institutions open the opportunity to facilitate this handful of approaches

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